OLD WORLD GENERA OF THE PANICEAE (POACEAE: PANICOIDEAE)

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ABSTRACT

Seventy-nine genera of the Paniceae are recognized as occurring in the Old World. For each genus a complete set of taxonomic data was collected and based on observations of all available specimens. The data were analyzed to construct a bracketed key for the genera. The fifty most diagnostic characters were selected and used in the production of fully comparative descriptions for the genera.

INTRODUCTION

This paper represents the final in a series of reports originally designed to provide a comprehensive taxonomic account of the genera of the Paniceae on a worldwide basis. The genera were studied and treated on a geographical basis. Initially, Webster (1988) presented a revision of the 25 North American genera which included *Alloteropsis* Presl, *Amphicarpum* Kunth, *Anthaenantia* P. Beauv., *Anthephora* Schreb., *Axonopus* P. Beauv., *Brachiaria* (Trin.) Griseb., *Cenchrus* L., *Digitaria* Haller, *Echinochloa* P. Beauv., *Eriochloa* Kunth, *Hymenachne* P. Beauv., *Lasiacis* (Griseb.) Hitchc., *Melinis* P. Beauv., *Oplismenus* P. Beauv., *Panicum* L., *Paspalidium* Stapf, *Paspalum* L., *Pennisetum* Rich., *Phanopyrum* (Raf.) Nash, *Reimarochloa* Hitchc., *Rhynchelytrum* Nees, *Sacciolepis* Nash, *Setaria* P. Beauv., *Stenotaphrum* Trin. and *Urochloa* P. Beauv. The revision gave information on the methods employed to present the taxonomic results and a detailed discussion of character concepts. The taxonomic results consisted of a key to the genera, synopsis of the characters, comparative diagnostic descriptions, and discussion of the generic variation.

That paper was followed by Webster and Valdez (1988) which provided a taxonomic account of the 38 Mesoamerican Paniceae genera which included *Acroceras* Stapf, *Anthaenantia* P. Beauv., *Anthephora* Schreb., *Arthropogon* Nees, *Axonopus* P. Beauv., *Brachiaria* (Trin.) Griseb., *Cenchrus* L., *Chaetium* Nees, *Digitaria* Haller, *Echinochloa* P. Beauv., *Echinolaena* Desv., *Eriochloa* Kunth, *Homolepis* Chase, *Hymenachne* P. Beauv., *Ichnanthus* P. Beauv., *Isachne* R. Br., *Ixophorus* Schlecht., *Lasiacis* (Griseb.) Hitchc., *Melinis* P. Beauv., *Mesosetum* Steud., *Oplismenus* P. Beauv., *Panicum* L., *Paratheria* Griseb., *Paspalidium* Stapf, *Paspalum* L., *Pennisetum* Rich., *Pseudechinolaena* Stapf, *Reimarochloa* Hitchc., *Reynaudia*

Kunth, *Rhynchelytrum* Nees, *Sacciolepis* Nash, *Scutachne* A. Hitchc. & Chase, *Setaria* P. Beauv., *Setariopsis* Scribn. & Millsp., *Stenotaphrum* Trin., *Thrasya* Kunth, *Triscenia* Griseb. and *Urochloa* P. Beauv. The treatment consisted of an introduction, additional information on methods, English key, Spanish key, a synopsis in Spanish, comparative diagnostic descriptions, and remarks on the genera. Descriptions covered by Webster (1988) were not duplicated. A total of 16 new descriptions were presented and were comparable to the 25 in Webster (1988).

That paper was followed by Webster et al. (1989) which provided a taxonomic account of the 50 recognized genera occurring in the New World. In hard copy, the paper contained additional information on the specific methods used, a cumulative description of the tribe, an identification key, and complete set of synoptic descriptions. An accompanying microfiche contained the English, Spanish, and Portuguese versions of the character list, keys, and complete descriptions for all taxa.

As a result of continuing taxonomic studies of the genera of the Paniceae a complete set of data of the genera of the world has been gathered. A detailed discussion of character reliability and morphological similarity among the 102 recognized genera is provided in Webster (1992). It is appropriate at this time to make available the taxonomic data for the Old World genera. The objective of this paper is to present a key and set of comparative diagnostic descriptions for the Old World genera. Information presented here fully compliments published studies on the New World genera. In addition, many of descriptions presented in this paper contains comparable information which previously has not been available for the genera. As in previous studies the DELTA system (Dallwitz 1974 & 1980) was used for the gathering and presentation of data. Seventy-nine genera were recognized as occurring in the Old World. The fifty most diagnostic characters were chosen to construct the descriptions. To avoid duplication, descriptions are not given for genera treated in previous papers. For these 26 genera (*Acroceras* Stapf, *Alloteropsis* Presl, *Anthephora* Schreb., *Axonopus* P. Beauv., *Brachiaria* (Trin.) Griseb., *Cenchrus* L., *Digitaria* Haller, *Echinochloa* P. Beauv., *Echinolaena* Desv., *Eriochloa* Kunth, *Hymenachne* P. Beauv., *Ichnanthus* P. Beauv., *Isachne* R. Br., *Melinis* P. Beauv., *Oplismenus* P. Beauv., *Panicum* L., *Paratheria* Griseb., *Paspalidium* Stapf, *Paspalum* L., *Pennisetum* Rich., *Pseudechinolaena* Stapf, *Rhynchelytrum* Nees, *Sacciolepis* Nash, *Setaria* P. Beauv., *Stenotaphrum* Trin., and *Urochloa* P. Beauv.) that occur in both the old and new worlds references are given to previously published comparative descriptions.

KEY TO THE OLD WORLD GENERA OF THE PANICEAE

1(0). Rachis terminating in a spikelet 2
Rachis terminating in a bristle or an unmodified naked point 76
2(1). Disarticulation above the lower glume or at the spikelet base 3

Disarticulation at the base of the primary branches or at the nodes of the primary branches 70

3(2). Fertile florets 1 4

Fertile florets 2 68

4(3). Inflorescence a panicle 5

Inflorescence a raceme 58

5(4). First glume fused with the callus to form a cuplike structure .... *Eriochloa*

First glume not fused with the callus 6

6(5). Lemma of upper floret muticous 7

Lemma of upper floret awned 55

7(6). Lemma of upper floret glabrous 8

Lemma of upper floret hairy 52

8(7). Cleistogamous inflorescence present .... *Cleistochloa*

Cleistogamous inflorescence absent 9

9(8). Lemma of upper floret with flat margins 10

Lemma of upper floret with involute margins 27

10(9). Lemma of lower floret with a hyaline area at the base or with the area between the central nerve and the first lateral nerve thinner in texture than the rest of the structure 11

Lemma of lower floret consistent in texture 13

11(10). Second glume gibbose; main axis with distichous primary branches; spikelets laterally compressed; rachilla pronounced between the florets .... *Pseudechinolaena*

Second glume rounded on the back; main axis with quaquaversal primary branches; spikelets dorsiventrally compressed or planoconvex; rachilla not pronounced between the florets 12

12(11). First glume encircling the spikelet base; lemma of lower floret with a central longitudinal groove; second glume chartaceous .... *Thyridachne*

First glume not encircling the spikelet base; lemma of lower floret lacking a central longitudinal groove; second glume membranous .... *Megaloprotachne*

13(10). Spikelets laterally compressed 14

Spikelets dorsiventrally compressed or planoconvex 18

14(13). Ligule a membrane or a ciliate membrane 15

Ligule a fringe of hairs 16

15(14). Pedicels concave; spikelets abaxial; first glume encircling the spikelet base; lemma of upper floret cartilaginous or indurate .... *Homopholis*

Pedicels flat, or convex; spikelets adaxial; first glume not encircling the spikelet base; lemma of upper floret hyaline .... *Cyphochlaena*

16(14). Main axis with secund primary branches; primary branches spreading; first glume hairy .... *Rhynchelytrum*

Main axis with quaquaversal primary branches; primary branches appressed to the main axis; first glume glabrous 17

17(16). Primary branches with appressed secondary branches; plants andromonoecious; lemma of lower floret muticous .... *Lecomtella*

Primary branches with spreading secondary branches; plants hermaphroditic; lemma of lower floret awned .... *Melinis*

18(13). Spikelets adaxial 19

Spikelets abaxial 24

19(18). Second glume saccate .... *Sacciolepis*

Second glume rounded on the back 20

20(19). Pedicels perpendicular with the spikelet base; second glume muticous 21

Pedicels oblique to the spikelet base; second glume awned .... *Acritochaete*

21(20). First glume present; primary branches with loosely arranged spikelets; rachilla pronounced below the second glume 22

First glume absent; primary branches with neatly arranged spikelets; rachilla not pronounced below the second glume .... *Axonopus*

22(21). First glume encircling the spikelet base; plants perennial; lemma of upper floret with margins of the same texture as the body; C-3 23

First glume not encircling the spikelet base; plants annual; lemma of upper floret with margins thinner in texture than the body; C-4 .... *Hylebates*

23(22). Rachilla pronounced between the florets; primary branches with spikelets neither secund nor distichous; pedicels cupuliform at the apex; lemma of upper floret yellow .... *Microcalamus*

Rachilla not pronounced between the florets; primary branches with secund spikelets; pedicels discoid at the apex .... *Hymenachne*

24(18). Lemma of upper floret chartaceous; lemma of lower floret awned .... *Stereochlaena*

Lemma of upper floret cartilaginous or indurate; lemma of lower floret muticous 25

25(24). Lemma of upper floret with margins thinner in texture than the body; C-4 .... *Digitaria*

Lemma of upper floret with margins of the same texture as the body; C-3 26

26(25). Primary branches with secund spikelets; rachilla not pronounced below the second glume; upper floret subequal to the length of the lower floret .... *Ancistrachne*

Primary branches with spikelets not secund; rachilla pronounced below the second glume; upper floret 0.6 – 0.7 times the length of the lower floret .... *Homopholis*

27(9). Second glume saccate 28

Second glume rounded on the back 29

28(27). Ligule a membrane; main axis with quaquaversal primary branches; spikelets abaxial; rachilla not pronounced between the florets .... *Hydrothauma*

Ligule a fringe of hairs; main axis with secund primary branches; spikelets adaxial; rachilla pronounced between the florets .... *Eccoptocarpha*

29(27). Lemma of upper floret hyaline to chartaceous 30

Lemma of upper floret cartilaginous to indurate 35

30(29). Ligule a membrane or a ciliate membrane 31

Ligule a fringe of hairs 34

31(30). Spikelets laterally compressed; upper floret more than 0.8 times the length of the lower floret; plants mesophytic 32

Spikelets not laterally compressed; upper floret less than 0.8 times the length of the lower floret; plants hydrophytic 33

32(31). Main axis with secund primary branches; lemma of upper floret not differentiated at the apex; lemma of lower floret keeled; lemma of upper floret shiny .... *Poecilostachys*

Main axis with quaquaversal primary branches; lemma of upper floret differentiated at the apex; lemma of lower floret not keeled; lemma of upper floret dull .... *Cyrtococcum*

33(31). Spikelets adaxial; first glume not encircling the spikelet base; primary branches spreading .... *Louisiella*

Spikelets with lateral orientation to abaxial; first glume encircling the spikelet base; primary branches appressed to the main axis .... *Hydrothauma*

34(30). Main axis with secund primary branches; rachilla not pronounced between the florets; plants annual .... *Brachiaria*

Main axis with quaquaversal primary branches; rachilla pronounced between the florets; plants perennial .... *Oryzidium*

35(29). Rachilla pronounced between the florets 36

Rachilla not pronounced between the florets 41

36(35). Lemma of upper floret with basal scars or appendages 37

Lemma of upper floret lacking basal scars or appendages 38

37(36). Pedicels concave; primary branches with loosely arranged spikelets; pedicels cupuliform at the apex; rachilla geniculate .... *Ichnanthus*

Pedicels flat, or convex; primary branches with neatly arranged spikelets; pedicels discoid at the apex; rachilla straight .... *Echinolaena*

38(36). Ligule a membrane or a ciliate membrane 39

Ligule a fringe of hairs 40

39(38). Primary branches with appressed secondary branches; spikelets adaxial; primary branches with secund spikelets; lemma of upper floret yellow .... Acroceras

Primary branches with spreading secondary branches; spikelets ab-axial; primary branches with spikelets not secund; lemma of upper floret white .... *Arthragrostis*

40(38). Plants hermaphroditic; spikelets not laterally compressed; lemma of lower floret consistent in texture; C-3 .... *Yakirra*

Plants dioecious; spikelets laterally compressed; lemma of lower floret with a hyaline area at the base; C-4 .... *Whiteochloa*

41(35). First glume present 42

First glume absent 49

42(41). Lemma of upper floret not rugose 43

Lemma of upper floret rugose 48

43(42). Pedicels concave 44

Pedicels flat or convex 47

44(43). Spikelets adaxial 45

Spikelets abaxial .... *Ottochloa*

45(44). Spikelets laterally compressed .... *Cyrtococcum*

Spikelets dorsiventrally compressed or planoconvex 46

46(45). Upper lemma conduplicate at the apex; pedicels truncate .... *Acroceras*

Upper lemma becoming thinner in texture at the apex; pedicels discoid at the apex .... *Echinochloa*

Upper lemma not differentiated at the apex; pedicels cupuliform at the apex .... *Panicum*

47(43). Spikelets adaxial; first glume awned; pedicels discoid at the apex; C-3 .... *Oplismenus*

Spikelets abaxial; first glume muticous; pedicels truncate at the apex; C-4 .... *Paspalum*

48(42). Ligule a membrane; first glume not encircling the spikelet base; lemma of lower floret with a central longitudinal groove .... *Holcolemma*

Ligule a fringe of hairs; first glume encircling the spikelet base; lemma of lower floret lacking a central longitudinal groove .... *Urochloa*

49(41). Spikelets adaxial 50
Spikelets abaxial 51
50(49). Primary branches with loosely arranged spikelets; internodes hollow; palea of lower floret vestigial .... *Yvesia*
Primary branches with neatly arranged spikelets; internodes solid; palea of lower floret absent .... *Axonopus*
51(49). Primary branches with appressed secondary branches; pedicels flat to convex; callus not differentiated; primary branches with secund spikelets .... Paspalum
Primary branches with spreading secondary branches; pedicels concave; callus differentiated; primary branches with spikelets not secund .... *Tricholaena*
52(7). Cleistogamous inflorescence present; lemma of upper floret with margins thinner in texture than the body .... *Cleistochloa*
Cleistogamous inflorescence absent; lemma of upper floret with margins of the same texture as the body 53
53(52). Spikelets adaxial; lemma of upper floret cartilaginous to indurate; plants rhizomatous 54
Spikelets abaxial; lemma of upper floret membranous; plants annual .... *Sphaerocaryum*
54(53). Ligule a ciliate membrane; rachilla pronounced between the florets; lemma of upper floret with flat margins .... *Microcalamus*
Ligule a fringe of hairs; rachilla not pronounced between the florets; lemma of upper floret with involute margins .... *Entolasia*
55(6). First glume encircling the spikelet base 56
First glume not encircling the spikelet base 57
56(55). Lemma of upper floret hyaline; lemma of upper floret with flat margins; spikelets laterally compressed .... *Mildbraediochloa*
Lemma of upper floret cartilaginous to indurate; lemma of upper floret with involute margins; spikelets dorsiventrally compressed .... *Urochloa*
57(55). Spikelets adaxial; lemma of lower floret consistent in texture; ligule a membrane; pedicels oblique to the spikelet base .... *Acritochaete*
Spikelets abaxial; lemma of lower floret with a hyaline area at the base; ligule a fringe of hairs; pedicels perpendicular with the spikelet base ... *Alloteropsis*
58(4). Cleistogamous inflorescence present 59
Cleistogamous inflorescence absent 60
59(58). Lemma of upper floret muticous; rachilla not pronounced between the florets .... *Cleistochloa*
Lemma of upper floret awned; rachilla pronounced between the florets .... *Calyptochloa*
60(58). Lemma of upper floret glabrous 61
Lemma of upper floret hairy 67
61(60). Lemma of upper floret hyaline to membranous 62
Lemma of upper floret chartaceous 63
Lemma of upper floret cartilaginous to indurate 64
62(61). Ligule a membrane or a ciliate membrane; callus not differentiated; pedicels flat to convex; Africa .... *Snowdenia*
Ligule a fringe of hairs; callus differentiated; pedicels concave; Australia .... *Neurachne*
63(61). First glume absent; ligule a membrane to a ciliate membrane; callus not differentiated .... *Baptorhachis*

First glume present; ligule a fringe of hairs; callus differentiated .... *Thyridolepis*

64(61). Callus differentiated; second glume chartaceous to indurate; plants xerophytic 65

Callus not differentiated; second glume hyaline to membranous; plants mesophytic 66

65(64). First glume with a transverse row of stout seta, the seta subtended by a hyaline area; glumes rounded to truncate .... *Thyridolepis*

First glume lacking a transverse row of stout seta, the seta not subtended by a hyaline area; glumes acuminate to awned .... *Paraneurachne*

66(64). Pedicels concave; rachilla not pronounced between the florets; lemma of upper floret with flat margins .... *Ancistrachne*

Pedicels flat or convex; rachilla pronounced between the florets; lemma of upper floret with involute margins .... *Echinolaena*

67(60). Spikelets adaxial; rachilla not pronounced between the florets; main axis with quaquaversal primary branches; plants perennial .... *Entolasia*

Spikelets abaxial; rachilla pronounced between the florets; main axis with secund primary branches; plants annual .... *Limnopoa*

68(3). Lemma of upper floret membranous .... *Coelachne*

Lemma of upper floret chartaceous to indurate 69

69(68). Primary inflorescence branches with spreading secondary branches .... *Isachne*

Primary inflorescence branches with appressed secondary branches .... *Heteranthoecia*

70(2). Lemma of upper floret hyaline .... *Chaetopoa*

Lemma of upper floret chartaceous 71

Lemma of upper floret cartilaginous to indurate 73

71(70). Callus differentiated; lemma of lower floret membranous; upper floret more than 0.8 times the length of the lower floret 72

Callus not differentiated; lemma of lower floret chartaceous; upper floret less than 0.8 times the length of the lower floret .... *Trachys*

72(71). Spikelets adaxial; callus prolonged into a pronounced stipe; first glume chartilagineus .... *Anthephora*

Spikelets abaxial; callus not prolonged into a stipe; first glumemembranous .... *Tarigidia*

73(70). Inflorescence a panicle; spikelets abaxial; plants annual 74

Inflorescence a raceme; spikelets adaxial; plants perennial 75

74(73). Callus differentiated; rachilla not pronounced between the florets; spikelets 8 – 14 mm long .... *Paractaenum*

Callus not differentiated; rachilla pronounced between the florets; spikelets 4 – 5 mm long .... *Arthragrostis*

75(73). Cleistogamous inflorescence present; lemma of upper floret awned; pedicels concave; callus not differentiated .... *Calyptochloa*

Cleistogamous inflorescence absent; lemma of upper floret muticous; pedicels flat to convex; callus differentiated .... *Thuarea*

76(1). Inflorescence a panicle 77

Inflorescence a raceme 96

Inflorescence a spike or a solitary spikelet 98

77(76). Cleistogamous inflorescence present 78

Cleistogamous inflorescence absent 79

78(77). Disarticulation at the spikelet base; callus not differentiated; lemma of lower floret indurate .... *Dissochondrus*

Disarticulation at the base of the primary branches; callus differentiated; lemma of lower floret membranous ..... *Paratheria*
79(77). Disarticulation at the spikelet base 80
Disarticulation at the base of the primary branches or at the nodes of the primary branches 84
80(79). Plants hermaphroditic 81
Plants monoecious ..... *Hygrochloa*
Plants andromonoecious ..... *Pseudochaetochloa*
81(80). First glume encircling the spikelet base 82
First glume not encircling the spikelet base 83
82(81). Main axis with distichous or with secund primary branches ..... *Paspalidium*
Main axis with quaquaversal primary branches ..... *Setaria*
83(81). Rachilla pronounced between the florets; lemma of lower floret lacking a central longitudinal groove ..... *Pseudoraphis*
Rachilla not pronounced between the florets; lemma of lower floret with a central longitudinal groove ..... *Holcolemma*
84(79). Lemma of upper floret muticous; lemma of lower floret lacking a central longitudinal groove 85
Lemma of upper floret awned; lemma of lower floret with a central longitudinal groove ..... *Uranthoecium*
85(84). Lemma of upper floret hyaline to membranous 86
Lemma of upper floret chartaceous 88
Lemma of upper floret cartilaginous to indurate 92
86(85). Main axis with distichous primary branches; lemma of lower floret linear to oblong ..... *Chamaeraphis*
Main axis with quaquaversal primary branches; lemma of lower floret lanceolate, ovate or elliptic 87
87(86). Plants hermaphroditic; rachilla pronounced between the florets; primary branches with secund spikelets; second glume lore than 0.8 times spikelet length ..... *Pseudoraphis*
Plants andromonoecious; rachilla not pronounced between the florets; primary branches with spikelets not secund; second glume less than 0.8 times spikelet length ..... *Pseudochaetochloa*
88(85). Plants hermaphroditic; upper floret perfect 89
Plants andromonoecious; upper floret staminate only ..... *Pseudochaetochloa*
89(88). Bristles unbranched 90
Bristles branched 91
90(89). Callus flared at the apex ..... *Cenchrus*
Callus not flared at the apex ..... *Pennisetum*
91(89). Callus differentiated; plants annual ..... *Chlorocalymma*
Callus not differentiated; plants perennial ..... *Odontelytrum*
92(85). Main axis with distichous or secund primary branches 93
Main axis with quaquaversal primary branches 94
93(92). Callus differentiated; first glume encircling the spikelet base; primary branches reflexed; plants lacking stolons ..... *Paractaenum*
Callus not differentiated; first glume not encircling the spikelet base; primary branches appressed to the main axis; plants stoloniferous ..... *Stenotaphrum*
94(92). Bristles subtending all spikelets; leaf blades filiform to linear 95
Bristles not subtending all spikelets; leaf blades ovate ..... *Streptolophus*

95(94). Callus flared at the apex .... *Cenchrus*
Callus not flared at the apex .... *Pennisetum*
96(76). Lemma of upper floret hyaline to membranous; callus not differentiated; rachilla pronounced between the florets .... *Pseudoraphis*
Lemma of upper floret cartilaginous to indurate; callus differentiated; rachilla not pronounced between the florets 97
97(96). Flowering culms terminated by a solitary inflorescence; callus prolonged into a pronounced stipe .... *Thuarea*
Flowering culms with inflorescences densely clustered in a spatheate panicle; callus not prolonged into a stipe .... *Spinifex*
98(76). Callus differentiated; lemma of upper floret with flat margins; rachilla not pronounced below the second glume 99
Callus not differentiated; lemma of upper floret with involute margins; rachilla pronounced below the second glume .... *Zygochloa*
99(98). Flowering culms with inflorescences in a spatheate raceme .... *Xerochloa*
Flowering culms with inflorescences densely clustered in a spatheate panicle .... *Spinifex*

DESCRIPTIONS FOR OLD WORLD GENERA OF THE PANICEAE

Acritochaete Pilger

Plants hermaphroditic; annual. Flowering culms terminated by a solitary inflorescence. Ligule a membrane. Inflorescence a panicle. Main axis with secund primary branches. Primary branches appressed to the main axis; with appressed secondary branches. Rachis terminating in a spikelet. Pedicels discoid at the apex; oblique to the spikelet base; flat. Disarticulation at the spikelet base. Callus not differentiated. Cleistogamous inflorescence absent. Spikelets solitary; homomorphic; adaxial; dorsiventrally compressed. First glume not fused with the callus; present; not encircling the spikelet base; not inflated at the base. Rachilla not pronounced below the second glume; not pronounced between the florets. Second glume present; rounded on the back; indumentum not uncinate. Fertile florets 1. Lemma of lower floret membranous; consistent in texture; lacking a central longitudinal groove. Lemma of upper floret chartaceous; faintly muricate; grey; dull; with flat margins; with margins thinner in texture than the body; glabrous; without basal modifications; not differentiated at the apex. C-4. Africa.

Acroceras Stapf—see WEBSTER & VALDEZ R. (1988).

Alloteropsis Presl—see WEBSTER (1988).

Ancistrachne S.T. Blake

Plants hermaphroditic; perennial. Flowering culms terminated by a solitary inflorescence. Ligule a ciliate membrane. Inflorescence a panicle, or a raceme. Main axis with quaquaversal primary branches. Primary branches appressed to the main axis to spreading; with appressed secondary branches. Rachis terminating in a spikelet. Pedicels cupuliform at the apex; perpendicular with the spikelet base; concave. Disarticulation at the spikelet base. Callus not differentiated.

Cleistogamous inflorescence absent. Spikelets solitary; homomorphic; abaxial; dorsiventrally compressed to planoconvex. First glume not fused with the callus; present; encircling the spikelet base; not inflated at the base. Rachilla not pronounced below the second glume; not pronounced between the florets. Second glume present; rounded on the back; indumentum uncinate. Fertile florets 1. Lemma of lower floret membranous to chartaceous; consistent in texture; lacking a central longitudinal groove. Lemma of upper floret cartilaginous to indurate; smooth (faintly striate); brown to yellow; dull; with flat margins; with margins of the same texture as the body; glabrous; without basal modifications; not differentiated at the apex. C-3. Asia and Australia.

Anthephora Schreb.—see WEBSTER & VALDEZ R. (1988).

Arthragrostis Lazarides

Plants hermaphroditic; annual. Flowering culms terminated by a solitary inflorescence. Ligule a ciliate membrane. Inflorescence a panicle. Main axis with quaquaversal primary branches. Primary branches spreading; with spreading secondary branches. Rachis terminating in a spikelet. Pedicels truncate at the apex; perpendicular with the spikelet base; concave. Disarticulation at the spikelet base and at the base of the primary branches. Callus not differentiated. Cleistogamous inflorescence absent. Spikelets solitary; homomorphic; abaxial; dorsiventrally compressed. First glume not fused with the callus; present; encircling the spikelet base; not inflated at the base. Rachilla pronounced below the second glume; pronounced between the florets; lacking lateral appendages. Second glume present; rounded on the back. Fertile florets 1. Lemma of lower floret membranous; consistent in texture; lacking a central longitudinal groove. Lemma of upper floret cartilaginous; smooth; white; dull; with involute margins; with margins of the same texture as the body; glabrous; without basal modifications; not differentiated at the apex. C-3. Australia.

Axonopus P. Beauv.—see WEBSTER (1988).

Baptorhachis Clayton & Renvoise

Plants hermaphroditic; annual. Flowering culms terminated by a solitary inflorescence. Ligule a ciliate membrane. Inflorescence a raceme. Rachis terminating in a spikelet. Pedicels truncate at the apex; perpendicular with the spikelet base; concave. Disarticulation at the spikelet base. Callus not differentiated. Cleistogamous inflorescence absent. Spikelets paired; homomorphic; abaxial; planoconvex. First glume not fused with the callus; absent. Rachilla not pronounced below the second glume; not pronounced between the florets. Second glume present, or absent; rounded on the back. Fertile florets 1. Lemma of lower floret membranous; consistent in texture; lacking a central longitudinal groove.

Lemma of upper floret chartaceous; minutely muricate; brown; dull; with flat margins; with margins thinner in texture than the body; glabrous; without basal modifications; not differentiated at the apex. C-4. Africa.

Brachiaria (Trin.) Griseb.—see WEBSTER (1988).

Calyptochloa C.E. Hubb.

Plants hermaphroditic; perennial. Flowering culms terminated by a solitary inflorescence. Ligule a fringe of hairs. Inflorescence a raceme. Main axis with quaquaversal primary branches. Rachis terminating in a spikelet. Pedicels truncate at the apex to cupuliform at the apex; perpendicular with the spikelet base; concave. Disarticulation at the spikelet base and at the culm nodes. Callus not differentiated. Cleistogamous inflorescence present. Cleistogamous spikelets morphologically different from the chasmogamous spikelets. Spikelets solitary; homomorphic; adaxial; dorsiventrally compressed. First glume not fused with the callus; present; not encircling the spikelet base; not inflated at the base. Rachilla not pronounced below the second glume; pronounced between the florets; lacking lateral appendages. Second glume present; rounded on the back; indumentum not uncinate. Fertile florets 1. Lemma of lower floret membranous; consistent in texture; lacking a central longitudinal groove. Lemma of upper floret cartilaginous; smooth; brown to yellow; dull; with flat margins to with involute margins; with margins thinner in texture than the body to with margins of the same texture as the body; glabrous; without basal modifications; not differentiated at the apex. C-3. Base chromosome number, x = 9, or 12. Australia.

Cenchrus L.—see WEBSTER (1988).

Chaetopoa C.E. Hubb.

Plants hermaphroditic; annual. Flowering culms terminated by a solitary inflorescence. Ligule a membrane. Inflorescence a panicle. Main axis with quaquaversal primary branches. Primary branches appressed to the main axis; with appressed secondary branches. Rachis terminating in a spikelet. Disarticulation at the base of the primary branches. Callus differentiated. Cleistogamous inflorescence absent. Spikelets in clusters of 4 or more; homomorphic; abaxial; dorsiventrally compressed. First glume not fused with the callus; present (bristle-like); not encircling the spikelet base; not inflated at the base. Rachilla not pronounced below the second glume; not pronounced between the florets. Second glume present; rounded on the back. Fertile florets 1. Lemma of lower floret hyaline; consistent in texture; lacking a central longitudinal groove. Lemma of upper floret hyaline; smooth; white; dull; with flat margins; with margins thinner in texture than the body; glabrous; without basal modifications; not differentiated at the apex. C-4. Africa.

Chamaeraphis R. Br.

Plants hermaphroditic; perennial. Flowering culms terminated by a solitary inflorescence. Ligule a membrane. Inflorescence a panicle. Main axis with distichous primary branches. Primary branches appressed to the main axis; with appressed secondary branches. Rachis terminating in a bristle. Bristles unbranched. Pedicels perpendicular with the spikelet base. Disarticulation at the base of the primary branches. Callus differentiated. Cleistogamous inflorescence absent. Spikelets solitary; homomorphic; abaxial; planoconvex to terete. First glume not fused with the callus; present; not encircling the spikelet base; not inflated at the base. Rachilla not pronounced below the second glume; not pronounced between the florets. Second glume present; rounded on the back. Fertile florets 1. Lemma of lower floret chartaceous to cartilaginous; consistent in texture; lacking a central longitudinal groove. Lemma of upper floret membranous; smooth; white; dull; with flat margins; with margins thinner in texture than the body; glabrous; without basal modifications; not differentiated at the apex. C-4. Australia.

Chlorocalymma Clayton

Plants hermaphroditic; annual. Flowering culms terminated by a solitary inflorescence. Ligule a membrane. Inflorescence a panicle. Primary branches reduced to a fascicle of spikelets. Rachis terminating in a bristle. Bristles branched. Pedicels perpendicular with the spikelet base. Disarticulation at the base of the primary branches. Callus differentiated. Cleistogamous inflorescence absent. Spikelets solitary; homomorphic; adaxial; dorsiventrally compressed. First glume not fused with the callus; present; not encircling the spikelet base; not inflated at the base. Rachilla not pronounced below the second glume; not pronounced between the florets. Second glume present; rounded on the back. Fertile florets 1. Lemma of lower floret membranous; consistent in texture; lacking a central longitudinal groove. Lemma of upper floret chartaceous; smooth; yellow; dull; with flat margins; with margins thinner in texture than the body; glabrous; without basal modifications; not differentiated at the apex. C-4. Africa.

Cleistochloa C.E. Hubb.

Plants hermaphroditic; perennial. Flowering culms terminated by a solitary inflorescence. Ligule a fringe of hairs. Inflorescence a panicle, or a raceme. Main axis with distichous primary branches, or with quaquaversal primary branches. Primary branches appressed to the main axis; with appressed secondary branches. Rachis terminating in a spikelet. Pedicels cupuliform at the apex; perpendicular with the spikelet base; concave. Disarticulation at the spikelet base. Callus not differentiated. Cleistogamous inflorescence present. Cleistogamous spikelets morphologically different from the chasmogamous spikelets. Spikelets solitary;

homomorphic; adaxial; dorsiventrally compressed. First glume not fused with the callus; present, or absent; not encircling the spikelet base; not inflated at the base. Rachilla not pronounced below the second glume; not pronounced between the florets. Second glume present; rounded on the back; indumentum not uncinate. Fertile florets 1. Lemma of lower floret membranous; consistent in texture; lacking a central longitudinal groove. Lemma of upper floret cartilaginous to indurate; muricate; brown to yellow; dull; with flat margins; with margins thinner in texture than the body; glabrous to hairy; without basal modifications; differentiated at the apex, or not differentiated at the apex. C-3. Australia.

Coelachne R. Br.

Plants hermaphroditic; annual, or perennial. Flowering culms terminated by a solitary inflorescence. Ligule a fringe of hairs, or absent. Inflorescence a panicle. Main axis with quaquaversal primary branches. Primary branches spreading to reflexed; with appressed secondary branches to with spreading secondary branches. Rachis terminating in a spikelet. Pedicels perpendicular with the spikelet base. Disarticulation above the lower glume; at the base of the lowest floret. Callus not differentiated. Cleistogamous inflorescence absent. Spikelets solitary, or paired; homomorphic; abaxial; dorsiventrally compressed. First glume not fused with the callus; present; not encircling the spikelet base; not inflated at the base. Rachilla pronounced below the second glume; pronounced between the florets; lacking lateral appendages. Second glume present; rounded on the back. Fertile florets 2. Lemma of lower floret membranous; consistent in texture; lacking a central longitudinal groove. Lemma of upper floret membranous; smooth; green, or purple; dull; with flat margins; with margins of the same texture as the body; glabrous, or hairy; without basal modifications; not differentiated at the apex. C-3. Base chromosome number, x = 10. Africa, or Asia, or Australia.

Cyphochlaena Hack.

Plants hermaphroditic; annual. Flowering culms terminated by a solitary inflorescence. Ligule a ciliate membrane. Inflorescence a panicle. Main axis with secund primary branches. Primary branches appressed to the main axis to spreading; with appressed secondary branches. Rachis terminating in a spikelet. Pedicels perpendicular with the spikelet base; flat. Disarticulation at the spikelet base. Callus not differentiated. Cleistogamous inflorescence absent. Spikelets paired; heteromorphic; adaxial (but difficult to determine); laterally compressed. First glume not fused with the callus; present; not encircling the spikelet base; not inflated at the base. Rachilla not pronounced below the second glume; not pronounced between the florets. Second glume present; rounded on the back. Fertile florets 1. Lemma of lower floret cartilaginous; consistent in texture; lacking a central longitudinal groove. Lemma of upper floret hyaline; smooth;

white; dull; with flat margins; with margins of the same texture as the body; glabrous; without basal modifications; not differentiated at the apex. C-3. Africa.

Cyrtococcum Stapf

Plants hermaphroditic; annual, or perennial. Flowering culms terminated by a solitary inflorescence. Ligule a membrane. Inflorescence a panicle. Main axis with quaquaversal primary branches. Primary branches appressed to the main axis to spreading; with appressed secondary branches, or with spreading secondary branches. Rachis terminating in a spikelet. Pedicels truncate at the apex, or cupuliform at the apex; perpendicular with the spikelet base; concave. Disarticulation at the spikelet base. Callus differentiated to not differentiated. Cleistogamous inflorescence absent. Spikelets solitary; homomorphic; adaxial; laterally compressed. First glume not fused with the callus; present; encircling the spikelet base to not encircling the spikelet base; not inflated at the base. Rachilla pronounced below the second glume, or not pronounced below the second glume; not pronounced between the florets. Second glume present; rounded on the back; indumentum not uncinate. Fertile florets 1. Lemma of lower floret membranous; consistent in texture; lacking a central longitudinal groove. Lemma of upper floret chartaceous to cartilaginous; smooth to striate; white, or yellow; dull; with involute margins; with margins of the same texture as the body; glabrous; constricted at the base to without basal modifications; differentiated at the apex. C-3. Africa, Asia, Australia, and Pacific Islands.

Digitaria Haller—see WEBSTER (1988).

Dissochondrus (Hillebr.) Kuntze

Plants hermaphroditic; perennial. Flowering culms terminated by a solitary inflorescence. Ligule a ciliate membrane. Inflorescence a panicle. Main axis with quaquaversal primary branches. Primary branches appressed to the main axis; with appressed secondary branches. Rachis terminating in a bristle. Bristles unbranched. Pedicels discoid at the apex; perpendicular with the spikelet base; concave. Disarticulation at the spikelet base. Callus not differentiated. Cleistogamous inflorescence present. Cleistogamous spikelets similar to the chasmogamous spikelets. Spikelets solitary; homomorphic; abaxial; dorsiventrally compressed. First glume not fused with the callus; present; encircling the spikelet base; not inflated at the base. Rachilla not pronounced below the second glume; not pronounced between the florets. Second glume present; rounded on the back. Fertile florets 1-3. Lemma of lower floret cartilaginous; consistent in texture; lacking a central longitudinal groove. Lemma of upper floret cartilaginous; smooth (minutely transverse rugose); brown to yellow; shiny; with involute margins; with margins of the same texture as the body; glabrous; without basal modifications; not differentiated at the apex. C-4. Pacific Islands.

Eccoptocarpha Launert

Plants hermaphroditic; annual. Flowering culms terminated by a solitary inflorescence. Ligule a fringe of hairs. Inflorescence a panicle. Main axis with secund primary branches. Primary branches spreading; with appressed secondary branches. Rachis terminating in a spikelet. Pedicels discoid at the apex; perpendicular with the spikelet base; concave. Disarticulation at the spikelet base (occ. at the base of the upper floret). Callus not differentiated. Cleistogamous inflorescence absent. Spikelets solitary; homomorphic; adaxial; dorsiventrally compressed. First glume not fused with the callus; present; encircling the spikelet base; not inflated at the base. Rachilla not pronounced below the second glume; pronounced between the florets; lacking lateral appendages. Second glume present; slightly saccate; indumentum not uncinate. Fertile florets 1. Lemma of lower floret membranous; consistent in texture; lacking a central longitudinal groove. Lemma of upper floret cartilaginous; smooth; yellow; shiny; with involute margins; with margins of the same texture as the body; glabrous; without basal modifications; not differentiated at the apex. C-4. Africa.

Echinochloa P. Beauv.—see WEBSTER (1988).

Echinolaena Desv.—see WEBSTER & VALDEZ R. (1988).

Entolasia Stapf

Plants hermaphroditic; perennial. Flowering culms terminated by a solitary inflorescence. Ligule a fringe of hairs. Inflorescence a panicle, or a raceme. Main axis with quaquaversal primary branches. Primary branches appressed to the main axis, or spreading; with appressed secondary branches. Rachis terminating in a spikelet. Pedicels cupuliform at the apex; perpendicular with the spikelet base; concave. Disarticulation at the spikelet base. Callus not differentiated. Cleistogamous inflorescence absent. Spikelets solitary; homomorphic; adaxial; dorsiventrally compressed. First glume not fused with the callus; present; encircling the spikelet base, or not encircling the spikelet base; inflated at the base, or not inflated at the base. Rachilla not pronounced below the second glume; not pronounced between the florets. Second glume present; rounded on the back. Fertile florets 1. Lemma of lower floret membranous; consistent in texture; lacking a central longitudinal groove. Lemma of upper floret cartilaginous; smooth to striate; white to yellow; dull; with involute margins; with margins of the same texture as the body; hairy; constricted at the base, or without basal modifications; not differentiated at the apex. C-3. Base chromosome number, x = 9. Africa and Australia.

Eriochloa Kunth—see WEBSTER (1988).

Heteranthoecia Stapf

Plants hermaphroditic; annual. Flowering culms terminated by a solitary inflorescence. Ligule a fringe of hairs. Inflorescence a panicle. Main axis with quaquaversal primary branches. Primary branches reflexed; with appressed secondary branches. Rachis terminating in a spikelet. Pedicels perpendicular with the spikelet base. Disarticulation above the lower glume; at the base of the lowest floret. Callus not differentiated. Cleistogamous inflorescence absent. Spikelets solitary; homomorphic; abaxial; dorsiventrally compressed. First glume not fused with the callus; present; not encircling the spikelet base; not inflated at the base. Rachilla pronounced below the second glume; pronounced between the florets; lacking lateral appendages. Second glume present; rounded on the back. Fertile florets 2. Lemma of lower floret chartaceous; consistent in texture; lacking a central longitudinal groove. Lemma of upper floret chartaceous; smooth; white; dull; with flat margins; with margins of the same texture as the body; hairy; without basal modifications; not differentiated at the apex. C-3. Base chromosome number, x = 10. Africa.

Holcolemma Stapf & C.E. Hubb.

Plants hermaphroditic; annual, or perennial. Flowering culms terminated by a solitary inflorescence. Ligule a membrane. Inflorescence a panicle. Main axis with quaquaversal primary branches. Primary branches appressed to the main axis; with appressed secondary branches, or reduced to a fascicle of spikelets. Rachis terminating in a spikelet, or terminating in a bristle. Bristles unbranched. Pedicels discoid at the apex; perpendicular with the spikelet base; concave. Disarticulation at the spikelet base. Callus not differentiated (with a minute stipe). Cleistogamous inflorescence absent. Spikelets solitary; homomorphic; dorsiventrally compressed. First glume not fused with the callus; present; not encircling the spikelet base; inflated at the base. Rachilla not pronounced below the second glume; not pronounced between the florets. Second glume present; rounded on the back. Fertile florets 1. Lemma of lower floret membranous; with the area between the central nerve and the first lateral nerve thinner in texture than the rest of the structure; with a central longitudinal groove. Lemma of upper floret cartilaginous; rugose; yellow; dull; with involute margins; with margins of the same texture as the body; glabrous; without basal modifications; not differentiated at the apex. Africa.

Homopholis C.E. Hubb.

Plants hermaphroditic; perennial. Flowering culms terminated by a solitary inflorescence. Ligule a membrane. Inflorescence a panicle. Primary branches spreading; with appressed secondary branches, or with spreading secondary branches. Rachis terminating in a spikelet. Pedicels cupuliform at the apex; perpendicular with the spikelet base; concave. Disarticulation at the spikelet base. Callus not differentiated. Cleistogamous inflorescence absent. Spikelets solitary; homomorphic; abaxial; laterally compressed to dorsiventrally compressed. First glume not fused with the callus; present; encircling the spikelet base; not inflated at the base. Rachilla pronounced below the second glume; not pronounced between the florets. Second glume present; rounded on the back; indumentum not uncinate. Fertile florets 1. Lemma of lower floret membranous to chartaceous; consistent in texture; lacking a central longitudinal groove. Lemma of upper floret cartilaginous to indurate; smooth, or striate; yellow; shiny; with flat margins; with margins of the same texture as the body; glabrous; without basal modifications; not differentiated at the apex. C-3. Australia.

Hydrothauma C.E. Hubb.

Plants hermaphroditic; annual. Flowering culms terminated by a solitary inflorescence. Ligule a membrane. Inflorescence a panicle. Main axis with quaquaversal primary branches. Primary branches appressed to the main axis; with appressed secondary branches. Rachis terminating in a spikelet. Pedicels discoid at the apex; perpendicular with the spikelet base; concave. Disarticulation at the spikelet base. Callus not differentiated. Cleistogamous inflorescence absent. Spikelets solitary; homomorphic; abaxial; dorsiventrally compressed to planoconvex. First glume not fused with the callus; present; encircling the spikelet base; not inflated at the base. Rachilla not pronounced below the second glume; not pronounced between the florets. Second glume present; slightly gibbose, or rounded on the back. Fertile florets 1. Lemma of lower floret membranous; consistent in texture; lacking a central longitudinal groove. Lemma of upper floret chartaceous; smooth; brown; shiny; with involute margins; with margins of the same texture as the body; glabrous; without basal modifications; not differentiated at the apex. C-3. Africa.

Hygrochloa Lazarides

Plants monoecious; annual, or perennial. Flowering culms terminated by a solitary inflorescence. Ligule a fringe of hairs. Inflorescence a panicle. Main axis with secund primary branches. Primary branches appressed to the main axis; with appressed secondary branches. Rachis terminating in an unmodified naked point. Bristles unbranched. Pedicels discoid at the apex; perpendicular with the spikelet base; concave. Disarticulation at the spikelet base. Callus not differentiated. Cleistogamous inflorescence absent. Spikelets solitary; heteromorphic; abaxial; planoconvex. First glume not fused with the callus; present; not encircling the spikelet base; not inflated at the base. Rachilla not pronounced below the second glume; not pronounced between the florets. Second glume present; rounded on the back. Fertile florets 1. Lemma of lower floret membranous; with a hyaline area at the base, or consistent in texture; lacking a central longitudinal groove. Lemma of upper floret chartaceous to cartilaginous; striate; white, or brown, or yellow;

dull; with flat margins; with margins thinner in texture than the body; glabrous; without basal modifications; not differentiated at the apex. C-4. Australia.

Hylebates L. Chippindall

Plants hermaphroditic; annual. Flowering culms terminated by a solitary inflorescence. Ligule a ciliate membrane. Inflorescence a panicle. Main axis with quaquaversal primary branches. Primary branches spreading; with spreading secondary branches. Rachis terminating in a spikelet. Pedicels cupuliform at the apex; perpendicular with the spikelet base; concave. Disarticulation above the lower glume, or at the spikelet base; at the base of the floret. Callus not differentiated. Cleistogamous inflorescence absent. Spikelets solitary; homomorphic; adaxial; dorsiventrally compressed. First glume not fused with the callus; present; not encircling the spikelet base; not inflated at the base. Rachilla pronounced below the second glume; pronounced between the florets to not pronounced between the florets; lacking lateral appendages. Second glume present; rounded on the back. Fertile florets 1. Lemma of lower floret membranous; consistent in texture; lacking a central longitudinal groove. Lemma of upper floret membranous to chartaceous; smooth; grey, or yellow; dull; with flat margins; with margins thinner in texture than the body; glabrous; without basal modifications; not differentiated at the apex. C-4. Africa.

Hymenachne P. Beauv.—see WEBSTER (1988).

Ichnanthus P. Beauv.—see WEBSTER & VALDEZ R. (1988).

Isachne R. Br.—see WEBSTER & VALDEZ R. (1988).

Lecomtella A. Camus

Plants andromonoecious; perennial. Flowering culms terminated by a solitary inflorescence. Ligule a fringe of hairs. Inflorescence a panicle. Main axis with quaquaversal primary branches. Primary branches appressed to the main axis; with appressed secondary branches. Rachis terminating in a spikelet. Pedicels truncate at the apex; perpendicular with the spikelet base; concave. Disarticulation at the spikelet base. Callus not differentiated. Cleistogamous inflorescence absent. Spikelets solitary; homomorphic; adaxial; laterally compressed. First glume not fused with the callus; present; not encircling the spikelet base; not inflated at the base. Rachilla pronounced below the second glume; not pronounced between the florets. Second glume present; rounded on the back. Fertile florets 1. Lemma of lower floret membranous to chartaceous; consistent in texture; lacking a central longitudinal groove. Lemma of upper floret membranous to chartaceous; smooth; yellow to green; dull; with flat margins; with margins thinner in texture than the body; glabrous; without basal modifications; not differentiated at the apex. C-3. Africa.

Limnopoa C.E. Hubb.

Plants hermaphroditic; annual. Flowering culms terminated by a solitary inflorescence. Ligule a fringe of hairs. Inflorescence a raceme. Main axis with distichous primary branches. Rachis terminating in a spikelet. Pedicels perpendicular with the spikelet base. Disarticulation above the lower glume; between the glumes, or at the base of the lowest floret. Callus not differentiated. Cleistogamous inflorescence absent. Spikelets paired; homomorphic; abaxial; dorsiventrally compressed. First glume not fused with the callus; present; not encircling the spikelet base; not inflated at the base. Rachilla not pronounced below the second glume; pronounced between the florets; lacking lateral appendages. Second glume present; rounded on the back. Fertile florets 1. Lemma of lower floret membranous; consistent in texture; lacking a central longitudinal groove. Lemma of upper floret cartilaginous; smooth; white; dull; with involute margins; with margins of the same texture as the body; hairy; without basal modifications; not differentiated at the apex. C-3. Asia.

Louisiella C.E. Hubb. & Leonard

Plants hermaphroditic; perennial. Flowering culms terminated by a solitary inflorescence. Ligule a ciliate membrane. Inflorescence a panicle. Main axis with quaquaversal primary branches. Primary branches spreading; with appressed secondary branches. Rachis terminating in a spikelet. Pedicels truncate at the apex; perpendicular with the spikelet base; shallow concave. Disarticulation at the spikelet base. Callus not differentiated. Cleistogamous inflorescence absent. Spikelets solitary, or paired; homomorphic; adaxial; dorsiventrally compressed. First glume not fused with the callus; present; not encircling the spikelet base; not inflated at the base. Rachilla not pronounced below the second glume; not pronounced between the florets. Second glume present; rounded on the back. Fertile florets 1. Lemma of lower floret membranous; consistent in texture; lacking a central longitudinal groove. Lemma of upper floret chartaceous; smooth; yellow; dull; with involute margins; with margins of the same texture as the body; glabrous; without basal modifications; not differentiated at the apex. C-4. Africa.

Megaloprotachne C.E. Hubb.

Plants hermaphroditic; annual. Flowering culms terminated by a solitary inflorescence. Ligule a membrane, or a ciliate membrane. Inflorescence a panicle. Main axis with quaquaversal primary branches. Primary branches appressed to the main axis to spreading; with appressed secondary branches. Rachis terminating in a spikelet. Pedicels cupuliform at the apex; perpendicular with the spikelet base; concave. Disarticulation at the spikelet base. Callus not differentiated. Cleistogamous inflorescence absent. Spikelets solitary, or paired; homomorphic;

abaxial; planoconvex. First glume not fused with the callus; present; not encircling the spikelet base; not inflated at the base. Rachilla not pronounced below the second glume (or minutely developed); not pronounced between the florets. Second glume present; rounded on the back; indumentum not uncinate. Fertile florets 1. Lemma of lower floret hyaline to membranous; with the area between the central nerve and the first lateral nerve thinner in texture than the rest of the structure; lacking a central longitudinal groove. Lemma of upper floret chartaceous to cartilaginous; striate to muricate; brown; dull; with flat margins; with margins thinner in texture than the body; glabrous; without basal modifications; not differentiated at the apex. C-4. Africa.

Melinis P. Beauv.—see WEBSTER (1988).

Microcalamus Franch.

Plants hermaphroditic; perennial. Flowering culms terminated by a solitary inflorescence. Ligule a ciliate membrane. Inflorescence a panicle. Main axis with quaquaversal primary branches. Primary branches appressed to the main axis to spreading; with appressed secondary branches to with spreading secondary branches. Rachis terminating in a spikelet. Pedicels cupuliform at the apex (but difficult to determine); perpendicular with the spikelet base; concave (but shallow). Disarticulation at the spikelet base. Callus not differentiated. Cleistogamous inflorescence absent. Spikelets solitary, or paired; homomorphic; adaxial; dorsiventrally compressed. First glume not fused with the callus; present; encircling the spikelet base; not inflated at the base. Rachilla pronounced below the second glume; pronounced between the florets; lacking lateral appendages. Second glume present; rounded on the back. Fertile florets 1. Lemma of lower floret membranous to chartaceous; consistent in texture; lacking a central longitudinal groove. Lemma of upper floret indurate; smooth (or minutely muricate); yellow; dull; with flat margins; with margins of the same texture as the body; glabrous, or hairy (especially on the margins); without basal modifications; differentiated at the apex. C-3. Africa.

Mildbraediochloa Butzin

Plants hermaphroditic; perennial. Flowering culms terminated by a solitary inflorescence. Ligule a fringe of hairs. Inflorescence a panicle. Main axis with quaquaversal primary branches. Primary branches spreading; with appressed secondary branches to with spreading secondary branches. Rachis terminating in a spikelet. Pedicels cupuliform at the apex; perpendicular with the spikelet base; concave. Disarticulation at the spikelet base. Callus not differentiated. Cleistogamous inflorescence absent. Spikelets solitary; homomorphic; adaxial, or with lateral orientation; laterally compressed. First glume not fused with the callus; present; encircling the spikelet base; not inflated at the base. Rachilla not pronounced below the second glume; not pronounced between the florets. Second glume present; rounded on the back; indumentum not uncinate. Fertile florets 1. Lemma of lower floret membranous; consistent in texture; lacking a central longitudinal groove. Lemma of upper floret hyaline; smooth; dull; with flat margins; with margins of the same texture as the body; glabrous; without basal modifications; not differentiated at the apex. Africa.

Neurachne R. Br.

Plants hermaphroditic; perennial. Flowering culms terminated by a solitary inflorescence. Ligule a fringe of hairs. Inflorescence a raceme. Main axis with quaquaversal primary branches. Rachis terminating in a spikelet. Pedicels cupuliform at the apex; perpendicular with the spikelet base, or oblique to the spikelet base; concave. Disarticulation at the spikelet base. Callus differentiated. Cleistogamous inflorescence absent. Spikelets solitary; homomorphic; abaxial; laterally compressed, or dorsiventrally compressed. First glume not fused with the callus; present; not encircling the spikelet base; not inflated at the base. Rachilla not pronounced below the second glume; not pronounced between the florets. Second glume present; rounded on the back; indumentum not uncinate. Fertile florets 1. Lemma of lower floret hyaline to chartaceous; consistent in texture; lacking a central longitudinal groove. Lemma of upper floret hyaline to membranous; smooth; white; dull; with flat margins; with margins of the same texture as the body; glabrous; without basal modifications; not differentiated at the apex. C-4, or C-3. Base chromosome number, x = 9. Australia.

Odontelytrum Hack.

Plants hermaphroditic; perennial. Flowering culms terminated by a solitary inflorescence. Ligule a membrane. Inflorescence a panicle. Main axis with quaquaversal primary branches. Primary branches appressed to the main axis; reduced to a fascicle of spikelets. Rachis terminating in a bristle. Bristles branched. Pedicels perpendicular with the spikelet base. Disarticulation at the base of the primary branches. Callus not differentiated. Cleistogamous inflorescence absent. Spikelets solitary; homomorphic; adaxial; dorsiventrally compressed. First glume not fused with the callus; present, or absent (usually present); not encircling the spikelet base; not inflated at the base. Rachilla not pronounced below the second glume; not pronounced between the florets. Second glume present; rounded on the back. Fertile florets 1. Lemma of lower floret membranous; consistent in texture; lacking a central longitudinal groove. Lemma of upper floret chartaceous; smooth; black; dull; with flat margins; with margins thinner in texture than the body to with margins of the same texture as the body; glabrous; without basal modifications; differentiated at the apex. C-4. Africa.

Oplismenus P. Beauv.—see WEBSTER (1988).

Oryzidium C.E. Hubb. & Schweick.

Plants hermaphroditic; perennial. Flowering culms terminated by a solitary inflorescence. Ligule a fringe of hairs. Inflorescence a panicle. Main axis with quaquaversal primary branches. Primary branches spreading; with appressed secondary branches to with spreading secondary branches. Rachis terminating in a spikelet. Pedicels cupuliform at the apex; perpendicular with the spikelet base; concave. Disarticulation at the spikelet base. Callus not differentiated. Cleistogamous inflorescence absent. Spikelets solitary; homomorphic; adaxial; dorsiventrally compressed. First glume not fused with the callus; present; encircling the spikelet base; not inflated at the base. Rachilla pronounced below the second glume; pronounced between the florets; lacking lateral appendages. Second glume present; rounded on the back. Fertile florets 1. Lemma of lower floret hyaline to membranous; consistent in texture; lacking a central longitudinal groove. Lemma of upper floret chartaceous; smooth; yellow; shiny; with involute margins; with margins of the same texture as the body; glabrous; without basal modifications; not differentiated at the apex. C-4. Africa.

Ottochloa Dandy

Plants hermaphroditic; annual, or perennial. Flowering culms terminated by a solitary inflorescence. Ligule a ciliate membrane. Inflorescence a panicle. Main axis with quaquaversal primary branches. Primary branches spreading; with appressed secondary branches, or with spreading secondary branches. Rachis terminating in a spikelet. Pedicels cupuliform at the apex; perpendicular with the spikelet base; concave. Disarticulation at the spikelet base. Callus not differentiated. Cleistogamous inflorescence absent. Spikelets solitary; homomorphic; abaxial; dorsiventrally compressed to planoconvex. First glume not fused with the callus; present; not encircling the spikelet base; not inflated at the base. Rachilla not pronounced below the second glume; not pronounced between the florets. Second glume present; rounded on the back. Fertile florets 1. Lemma of lower floret membranous; consistent in texture; lacking a central longitudinal groove. Lemma of upper floret cartilaginous to indurate; muricate; yellow; dull; with involute margins; with margins of the same texture as the body; glabrous; with basal scars or appendages, or constricted at the base, or without basal modifications; not differentiated at the apex. C-3. Africa, or Asia, or Australia.

Panicum L.—see WEBSTER (1988).

Paractaenum P. Beauv.

Plants hermaphroditic; annual. Flowering culms terminated by a solitary inflorescence. Ligule a membrane, or a fringe of hairs. Inflorescence a panicle. Main axis with distichous primary branches. Primary branches reflexed; with appressed secondary branches. Rachis terminating in a spikelet, or terminating in an unmodified naked point. Bristles unbranched or branched. Pedicels truncate at the apex; perpendicular with the spikelet base. Disarticulation at the base of the primary branches. Callus differentiated. Cleistogamous inflorescence absent. Spikelets solitary; homomorphic; abaxial; dorsiventrally compressed, or planoconvex. First glume not fused with the callus; present; encircling the spikelet base; not inflated at the base. Rachilla not pronounced below the second glume; not pronounced between the florets. Second glume present; rounded on the back. Fertile florets 1. Lemma of lower floret membranous; consistent in texture; lacking a central longitudinal groove. Lemma of upper floret cartilaginous; muricate, or rugose; brown to yellow; dull; with involute margins; with margins of the same texture as the body; glabrous; constricted at the base, or without basal modifications; not differentiated at the apex. C-4. Australia.

Paraneurachne S.T. Blake

Plants hermaphroditic; perennial. Flowering culms terminated by a solitary inflorescence. Ligule a fringe of hairs. Inflorescence a raceme. Rachis terminating in a spikelet. Pedicels discoid at the apex; oblique to the spikelet base; concave. Disarticulation at the spikelet base. Callus differentiated. Cleistogamous inflorescence absent. Spikelets solitary; homomorphic; abaxial; planoconvex. First glume not fused with the callus; present; encircling the spikelet base; not inflated at the base. Rachilla not pronounced below the second glume; not pronounced between the florets. Second glume present; rounded on the back; indumentum not uncinate. Fertile florets 1. Lemma of lower floret chartaceous; consistent in texture; lacking a central longitudinal groove. Lemma of upper floret indurate; muricate and rugose; yellow; with involute margins; with margins of the same texture as the body; glabrous; without basal modifications; not differentiated at the apex. Base chromosome number, x = 9. Australia.

Paratheria Griseb.—see WEBSTER & VALDEZ R. (1988).

Paspalidium Stapf—see Webster (1988).

Paspalum L.—see WEBSTER (1988).

Pennisetum Rich.—see WEBSTER (1988).

Poecilostachys Hack.

Plants hermaphroditic; perennial. Flowering culms terminated by a solitary inflorescence. Ligule a membrane. Inflorescence a panicle. Main axis with secund primary branches. Primary branches spreading; with appressed secondary branches. Rachis terminating in a spikelet. Pedicels cupuliform at the apex; perpendicular with the spikelet base; concave. Disarticulation at the spikelet base. Callus not differentiated. Cleistogamous inflorescence absent. Spikelets solitary, or paired; homomorphic; adaxial; laterally compressed. First glume not fused with the callus; present; encircling the spikelet base; not inflated at the base. Rachilla pronounced below the second glume, or not pronounced below the second glume; pronounced between the florets, or not pronounced between the florets; lacking lateral appendages. Second glume present; rounded on the back; indumentum not uncinate. Fertile florets 1. Lemma of lower floret membranous; consistent in texture; lacking a central longitudinal groove. Lemma of upper floret membranous to chartaceous; smooth; yellow; shiny; with involute margins; with margins of the same texture as the body; glabrous; without basal modifications; not differentiated at the apex. C-3. Africa.

Pseudechinolaena Stapf—see WEBSTER & VALDEZ R. (1988).

Pseudochaetochloa Hitchc.

Plants andromonoecious; perennial. Flowering culms terminated by a solitary inflorescence. Ligule a fringe of hairs. Inflorescence a panicle. Main axis with quaquaversal primary branches. Primary branches reflexed; with appressed secondary branches and reduced to a fascicle of spikelets. Rachis terminating in a bristle. Bristles unbranched. Pedicels discoid at the apex; perpendicular with the spikelet base; concave. Disarticulation at the spikelet base and at the base of the primary branches. Callus differentiated, or not differentiated. Cleistogamous inflorescence absent. Spikelets solitary; homomorphic; abaxial; laterally compressed, or dorsiventrally compressed. First glume not fused with the callus; present; not encircling the spikelet base; not inflated at the base. Rachilla not pronounced below the second glume; not pronounced between the florets. Second glume present; rounded on the back. Lemma of lower floret membranous to chartaceous; consistent in texture; lacking a central longitudinal groove. Lemma of upper floret membranous to chartaceous; smooth; white; with flat margins; with margins thinner in texture than the body; glabrous; without basal modifications; not differentiated at the apex. Australia.

Pseudoraphis Griff.

Plants hermaphroditic; perennial. Flowering culms terminated by a solitary inflorescence. Ligule a membrane, or a fringe of hairs. Inflorescence a panicle, or a raceme. Main axis with quaquaversal primary branches. Primary branches appressed to the main axis, or spreading; with appressed secondary branches. Rachis terminating in an unmodified naked point. Bristles unbranched. Pedicels truncate at the apex, or discoid at the apex; perpendicular with the spikelet base; flat. Disarticulation at the spikelet base, or at the base of the primary branches. Callus not differentiated. Cleistogamous inflorescence absent. Spikelets solitary; homomorphic; abaxial; planoconvex to terete. First glume not fused with the callus; present; not encircling the spikelet base; not inflated at the base. Rachilla not pronounced below the second glume; pronounced between the florets; lacking lateral appendages. Second glume present; rounded on the back. Fertile florets 1. Lemma of lower floret hyaline to chartaceous; consistent in texture; lacking a central longitudinal groove. Lemma of upper floret hyaline to membranous; smooth; white; shiny; with flat margins; with margins of the same texture as the body; glabrous; without basal modifications; not differentiated at the apex. C-4. Base chromosome number, x = 8. Asia, Australia, and Pacific Islands.

Rhynchelytrum Nees—see WEBSTER (1988).

Sacciolepis Nash—see WEBSTER (1988).

Setaria P. Beauv.—see WEBSTER (1988).

Snowdenia C.E. Hubb.

Plants hermaphroditic; annual. Flowering culms terminated by a solitary inflorescence. Ligule a membrane, or a ciliate membrane. Inflorescence a raceme. Main axis with quaquaversal primary branches. Primary branches appressed to the main axis. Rachis terminating in a spikelet. Pedicels perpendicular with the spikelet base; convex. Disarticulation at the spikelet base. Callus not differentiated. Cleistogamous inflorescence absent. Spikelets solitary; homomorphic; abaxial; dorsiventrally compressed to planoconvex. First glume not fused with the callus; present; not encircling the spikelet base; not inflated at the base. Rachilla not pronounced below the second glume; not pronounced between the florets. Second glume present; rounded on the back. Fertile florets 1. Lemma of lower floret membranous; consistent in texture; lacking a central longitudinal groove. Lemma of upper floret membranous; scabrous; green; dull; with flat margins; with margins thinner in texture than the body; glabrous; without basal modifications; not differentiated at the apex. C-4. Africa.

Sphaerocaryum Hook. f.

Plants hermaphroditic; annual. Flowering culms terminated by a solitary inflorescence. Ligule a fringe of hairs. Inflorescence a panicle. Main axis with quaquaversal primary branches. Primary branches spreading; with spreading secondary branches. Rachis terminating in a spikelet. Disarticulation above the lower glume; at the base of the lowest floret. Callus not differentiated. Cleistogamous inflorescence absent. Spikelets solitary; homomorphic; abaxial; dorsiventrally compressed. First glume not fused with the callus; present; not encircling the spikelet base; not inflated at the base. Rachilla pronounced below the second glume. Second glume present; rounded on the back; indumentum not uncinate. Fertile florets 1. Lemma of lower floret consistent in texture; lacking a central longitudinal groove. Lemma of upper floret membranous; smooth;

purple; dull; with flat margins; with margins of the same texture as the body; hairy; without basal modifications; not differentiated at the apex. C-3. Base chromosome number, x = 10. Asia.

Spinifex L.

Plants dioecious; perennial. Flowering culms with inflorescences densely clustered in a spatheate panicle. Ligule a fringe of hairs. Inflorescence a raceme, or a spike. Rachis terminating in a bristle. Bristles unbranched. Pedicels cupuliform at the apex; perpendicular with the spikelet base; concave. Disarticulation at the base of the inflorescence and at the culm nodes. Callus differentiated. Cleistogamous inflorescence absent. Spikelets solitary; homomorphic; abaxial; dorsiventrally compressed. First glume not fused with the callus; present; not encircling the spikelet base; not inflated at the base. Rachilla not pronounced below the second glume; not pronounced between the florets. Second glume present; rounded on the back; indumentum not uncinate. Fertile florets 1. Lemma of lower floret chartaceous to cartilaginous; consistent in texture; lacking a central longitudinal groove. Lemma of upper floret cartilaginous, or indurate; smooth; yellow; dull; with flat margins; with margins thinner in texture than the body; glabrous; without basal modifications; not differentiated at the apex. C-4. Base chromosome number, x = 9. Asia and Australia.

Stenotaphrum Trin.—see WEBSTER (1988).

Stereochlaena Hack.

Plants hermaphroditic; annual, or perennial. Flowering culms terminated by a solitary inflorescence. Ligule a ciliate membrane. Inflorescence a panicle. Primary branches spreading; with appressed secondary branches. Rachis terminating in a spikelet. Pedicels truncate at the apex; perpendicular with the spikelet base; concave. Disarticulation at the spikelet base. Callus not differentiated. Cleistogamous inflorescence absent. Spikelets paired; homomorphic; abaxial; planoconvex. First glume not fused with the callus; present, or absent; not encircling the spikelet base; not inflated at the base. Rachilla not pronounced below the second glume; not pronounced between the florets. Second glume present, or absent; rounded on the back. Fertile florets 1. Lemma of lower floret membranous; consistent in texture; lacking a central longitudinal groove. Lemma of upper floret chartaceous; minutely muricate; brown; dull; with flat margins; with margins thinner in texture than the body; glabrous; without basal modifications; not differentiated at the apex. C-4. Africa.

Streptolophus Hughes

Plants hermaphroditic; annual. Flowering culms terminated by a solitary inflorescence. Ligule a membrane. Inflorescence a panicle. Main axis with quaquaversal primary branches. Primary branches appressed to the main axis to reflexed; reduced to a fascicle of spikelets. Rachis terminating in a bristle. Bristles unbranched, or branched. Pedicels cupuliform at the apex; perpendicular with the spikelet base; concave. Disarticulation at the base of the primary branches. Callus not differentiated. Cleistogamous inflorescence absent. Spikelets solitary; homomorphic; abaxial; dorsiventrally compressed. First glume not fused with the callus; present; not encircling the spikelet base; not inflated at the base. Rachilla not pronounced below the second glume; not pronounced between the florets. Second glume present; rounded on the back. Fertile florets 1. Lemma of lower floret membranous to chartaceous; consistent in texture; lacking a central longitudinal groove. Lemma of upper floret cartilaginous; muricate; brown; dull; with involute margins; with margins of the same texture as the body; glabrous; without basal modifications; not differentiated at the apex. C-4. Africa.

Tarigidia Stent

Plants hermaphroditic; perennial. Flowering culms terminated by a solitary inflorescence. Ligule a membrane. Inflorescence a panicle. Main axis with quaquaversal primary branches. Primary branches appressed to the main axis; with appressed secondary branches. Rachis terminating in a spikelet. Pedicels perpendicular with the spikelet base. Disarticulation at the base of the primary branches. Callus differentiated. Cleistogamous inflorescence absent. Spikelets solitary, or paired; homomorphic; abaxial; planoconvex. First glume not fused with the callus; present; not encircling the spikelet base; not inflated at the base. Rachilla not pronounced below the second glume; not pronounced between the florets. Second glume present; rounded on the back; indumentum not uncinate. Fertile florets 1. Lemma of lower floret membranous; consistent in texture; lacking a central longitudinal groove. Lemma of upper floret chartaceous; smooth; black, or yellow; dull; with flat margins; with margins thinner in texture than the body; glabrous; without basal modifications; not differentiated at the apex. C-4. Africa.

Thuarea Pers.

Plants monoecious, or andromonoecious; perennial. Flowering culms terminated by a solitary inflorescence. Ligule a fringe of hairs. Inflorescence a raceme. Rachis terminating in a spikelet, or terminating in an unmodified naked point. Pedicels not applicable (not clearly differentiated); perpendicular with the spikelet base; flat. Disarticulation at the base of the inflorescence (with a secondary point at the base of the terminal spikelets). Callus differentiated. Cleistogamous inflorescence absent. Spikelets solitary; homomorphic; adaxial; dorsiventrally compressed. First glume not fused with the callus; present, or absent; not encircling the spikelet base; not inflated at the base. Rachilla not pronounced below the second glume; not pronounced between the florets. Second glume present; rounded on the back; indumentum not uncinate. Fertile florets 1. Lemma of lower floret membranous; consistent in texture; lacking a central longitudinal groove. Lemma of upper floret cartilaginous to indurate; smooth; yellow; dull; with flat margins; with margins of the same texture as the body; glabrous; without basal modifications; not differentiated at the apex. C-4. Africa, Asia, and Australia.

Thyridachne C.E. Hubb.

Plants hermaphroditic; annual. Flowering culms terminated by a solitary inflorescence. Ligule a membrane. Inflorescence a panicle. Main axis with quaquaversal primary branches. Primary branches appressed to the main axis; with appressed secondary branches. Rachis terminating in a spikelet. Pedicels cupuliform at the apex; perpendicular with the spikelet base; concave. Disarticulation at the spikelet base. Callus not differentiated. Cleistogamous inflorescence absent. Spikelets solitary; homomorphic; abaxial; dorsiventrally compressed. First glume not fused with the callus; present; encircling the spikelet base; not inflated at the base. Rachilla not pronounced below the second glume; not pronounced between the florets. Second glume present; rounded on the back. Fertile florets 1. Lemma of lower floret membranous to chartaceous; with the area between the central nerve and the first lateral nerve thinner in texture than the rest of the structure; with a central longitudinal groove. Lemma of upper floret cartilaginous; smooth; yellow; dull; with flat margins; with margins of the same texture as the body; glabrous; without basal modifications; not differentiated at the apex. C-3. Africa.

Thyridolepis S.T. Blake

Plants hermaphroditic; perennial. Flowering culms terminated by a solitary inflorescence. Ligule a fringe of hairs. Inflorescence a raceme. Rachis terminating in a spikelet. Pedicels discoid at the apex; perpendicular with the spikelet base, or oblique to the spikelet base; concave. Disarticulation at the spikelet base. Callus differentiated. Cleistogamous inflorescence absent. Spikelets solitary; homomorphic; abaxial; planoconvex. First glume not fused with the callus; present; encircling the spikelet base; not inflated at the base. Rachilla pronounced below the second glume; not pronounced between the florets. Second glume present; rounded on the back; indumentum not uncinate. Fertile florets 1. Lemma of lower floret membranous to chartaceous; consistent in texture; lacking a central longitudinal groove. Lemma of upper floret chartaceous to cartilaginous; striate; brown; dull; with flat margins; with margins thinner in texture than the body to with margins of the same texture as the body; glabrous; without basal modifications; differentiated at the apex. C-3. Base chromosome number, $x = 9$. Australia.

Trachys Pers.

Plants hermaphroditic; annual, or perennial. Flowering culms terminated by a solitary inflorescence. Ligule a membrane. Inflorescence a panicle. Main axis with secund primary branches. Primary branches appressed to the main axis; reduced to a fascicle of spikelets. Rachis terminating in a spikelet. Pedicels perpendicular with the spikelet base. Disarticulation at the nodes of the main axis, or at the nodes of the primary branches. Callus not differentiated. Cleistogamous inflorescence absent. Spikelets in clusters of 4 or more; homomorphic; abaxial; dorsiventrally compressed (dorsally flattened). First glume not fused with the callus; present; not encircling the spikelet base; not inflated at the base. Rachilla not pronounced below the second glume; not pronounced between the florets. Second glume present; rounded on the back; indumentum not uncinate. Fertile florets 1. Lemma of lower floret cartilaginous; consistent in texture; lacking a central longitudinal groove. Lemma of upper floret chartaceous; smooth (minutely muricate); brown; dull; with flat margins (slightly involute); with margins thinner in texture than the body to with margins of the same texture as the body; glabrous; without basal modifications; not differentiated at the apex. C-4. Asia.

Tricholaena Schult.

Plants hermaphroditic; perennial. Flowering culms terminated by a solitary inflorescence. Ligule a fringe of hairs. Inflorescence a panicle. Main axis with distichous primary branches, or with secund primary branches. Primary branches spreading; with spreading secondary branches. Rachis terminating in a spikelet. Pedicels discoid at the apex; perpendicular with the spikelet base; concave. Disarticulation above the lower glume, or at the spikelet base; at the base of the floret. Callus minutely differentiated. Cleistogamous inflorescence absent. Spikelets solitary; homomorphic; probably abaxial; dorsiventrally compressed. First glume not fused with the callus; absent (or minute). Rachilla not pronounced between the florets. Second glume present; rounded on the back; indumentum not uncinate. Fertile florets 1. Lemma of lower floret membranous; consistent in texture; lacking a central longitudinal groove. Lemma of upper floret cartilaginous; smooth; yellow; shiny; with involute margins; with margins of the same texture as the body; glabrous; without basal modifications; not differentiated at the apex. C-4. Base chromosome number, x = 9. Africa and Asia.

Uranthoecium Stapf

Plants hermaphroditic; annual. Flowering culms terminated by a solitary inflorescence. Ligule a fringe of hairs. Inflorescence a panicle. Main axis with distichous primary branches. Primary branches appressed to the main axis; with appressed secondary branches. Rachis terminating in an unmodified naked point. Bristles unbranched. Pedicels discoid at the apex; perpendicular with the spikelet base; concave to flat. Disarticulation at the nodes of the main axis (with a secondary point at the spikelet base). Callus not differentiated. Cleistogamous inflorescence absent. Spikelets solitary; homomorphic; abaxial; planoconvex. First glume not fused with the callus; present; not encircling the spikelet base; not inflated at the base. Rachilla not pronounced below the second glume; not pronounced between the florets. Second glume present; rounded on the back. Fertile florets 1. Lemma of lower floret chartaceous; with the area between the central nerve and the first lateral nerve thinner in texture than the rest of the structure; with a central longitudinal groove. Lemma of upper floret indurate; rugose; yellow; dull; with flat margins to with involute margins; with margins thinner in texture than the body to with margins of the same texture as the body; glabrous; without basal modifications; not differentiated at the apex. C-4. Base chromosome number, x = 7, or 9, or 15. Australia.

Urochloa P. Beauv.—see WEBSTER (1988).

Whiteochloa C.E. Hubb.

Plants dioecious; annual, or perennial. Flowering culms terminated by a solitary inflorescence. Ligule a fringe of hairs. Inflorescence a panicle. Main axis with quaquaversal primary branches. Primary branches appressed to the main axis, or spreading; with appressed secondary branches, or with spreading secondary branches. Rachis terminating in a spikelet. Pedicels discoid at the apex, or cupuliform at the apex; perpendicular with the spikelet base; concave. Disarticulation at the spikelet base. Callus differentiated, or not differentiated. Cleistogamous inflorescence absent. Spikelets solitary; homomorphic; adaxial; laterally compressed. First glume not fused with the callus; present; encircling the spikelet base; inflated at the base, or not inflated at the base. Rachilla pronounced below the second glume, or not pronounced below the second glume; pronounced between the florets; lacking lateral appendages. Second glume present; rounded on the back; indumentum not uncinate. Fertile florets 1. Lemma of lower floret membranous to cartilaginous; with a hyaline area at the base; lacking a central longitudinal groove. Lemma of upper floret cartilaginous to indurate; smooth, or rugose; white, or yellow; dull; with involute margins; with margins of the same texture as the body; glabrous; constricted at the base, or without basal modifications; not differentiated at the apex. C-4. Australia.

Xerochloa R. Br.

Plants hermaphroditic; annual, or perennial. Flowering culms with inflorescences in a spatheate raceme. Ligule a fringe of hairs. Inflorescence a spike, or a solitary spikelet. Main axis with quaquaversal primary branches. Rachis terminating in an unmodified naked point. Pedicels perpendicular with the spikelet base. Disarticulation at the base of the inflorescence. Callus differentiated.

Cleistogamous inflorescence absent. Spikelets solitary; homomorphic; abaxial; laterally compressed to dorsiventrally compressed. First glume not fused with the callus; present, or absent; not encircling the spikelet base; not inflated at the base. Rachilla not pronounced below the second glume; not pronounced between the florets. Second glume present; rounded on the back; indumentum not uncinate. Fertile florets 1. Lemma of lower floret membranous to cartilaginous; with a hyaline area at the base; lacking a central longitudinal groove. Lemma of upper floret membranous to cartilaginous; smooth, or striate, or muricate; white to brown; dull; with flat margins; with margins thinner in texture than the body, or with margins of the same texture as the body; glabrous; without basal modifications; not differentiated at the apex. C-4. Australia.

Yakirra Lazarides & R. Webster

Plants hermaphroditic; annual, or perennial. Flowering culms terminated by a solitary inflorescence. Ligule a fringe of hairs. Inflorescence a panicle (rarely a raceme). Main axis with quaquaversal primary branches. Primary branches appressed to the main axis, or spreading; with appressed secondary branches, or with spreading secondary branches. Rachis terminating in a spikelet. Pedicels cupuliform at the apex; perpendicular with the spikelet base; concave. Disarticulation above the lower glume, or at the spikelet base. Callus not differentiated. Cleistogamous inflorescence absent. Spikelets solitary; homomorphic; adaxial; dorsiventrally compressed. First glume not fused with the callus; present; encircling the spikelet base; not inflated at the base. Rachilla pronounced below the second glume; pronounced between the florets; with lateral appendages, or lacking lateral appendages. Second glume present; rounded on the back. Fertile florets 1. Lemma of lower floret membranous; consistent in texture; lacking a central longitudinal groove. Lemma of upper floret indurate; smooth; brown to yellow; dull; with involute margins; with margins of the same texture as the body; glabrous; without basal modifications; not differentiated at the apex. C-3. Australia.

Yvesia A. Camus

Plants hermaphroditic; annual. Flowering culms terminated by a solitary inflorescence. Ligule a fringe of hairs. Inflorescence a panicle. Main axis with quaquaversal primary branches. Primary branches appressed to the main axis, or spreading; with appressed secondary branches. Rachis terminating in a spikelet. Pedicels discoid at the apex; perpendicular with the spikelet base; concave. Disarticulation at the spikelet base. Callus not differentiated. Cleistogamous inflorescence absent. Spikelets solitary; homomorphic; adaxial; dorsiventrally compressed. First glume not fused with the callus; absent. Rachilla not pronounced below the second glume; not pronounced between the florets. Second glume present; rounded on the back; indumentum not uncinate. Fertile florets 1. Lemma of lower floret membranous; consistent in texture; lacking a central longitudinal groove. Lemma of upper floret cartilaginous; minutely muricate; yellow; dull; with involute margins (becoming flat); with margins of the same texture as the body; glabrous; without basal modifications; not differentiated at the apex. C-4. Africa.

Zygochloa S.T. Blake

Plants dioecious; perennial. Flowering culms with inflorescences densely clustered in a spatheate panicle. Ligule a fringe of hairs. Inflorescence a solitary spikelet. Rachis terminating in an unmodified naked point. Pedicels discoid at the apex; perpendicular with the spikelet base; concave to flat. Disarticulation at the spikelet base and at the culm nodes. Callus not differentiated. Cleistogamous inflorescence absent. Spikelets solitary; homomorphic; dorsiventrally compressed. First glume not fused with the callus; present; encircling the spikelet base; not inflated at the base. Rachilla pronounced below the second glume; not pronounced between the florets. Second glume present; rounded on the back; indumentum not uncinate. Lemma of lower floret chartaceous; consistent in texture; lacking a central longitudinal groove. Lemma of upper floret indurate; smooth to striate; yellow; with involute margins; with margins of the same texture as the body; glabrous; constricted at the base; not differentiated at the apex. Australia.

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